Internet Exchange Nepal (NPIX)
and
South Asian Network Operators Group (SANOG)
- A brief Introduction

- Rupesh Shrestha

*Board Member and Managing Director, NPIX*

Chairperson, SANOG

Managing Director, Kalash Services Pvt. Ltd.

- Internet Exchange Nepal, commonly knows as **npIX**, was **established in 2002** as Nepal's first Internet Exchange point.

- NPIX is registered as a **not for profit company**

- Currently we have **40 plus members peering at 2 locations**,

- npIX facilitates keeping **local traffic local**, making surfing much **faster** with local content for local customers, at the same time **saving international bandwidth.**

Internet Exchange basic diagram
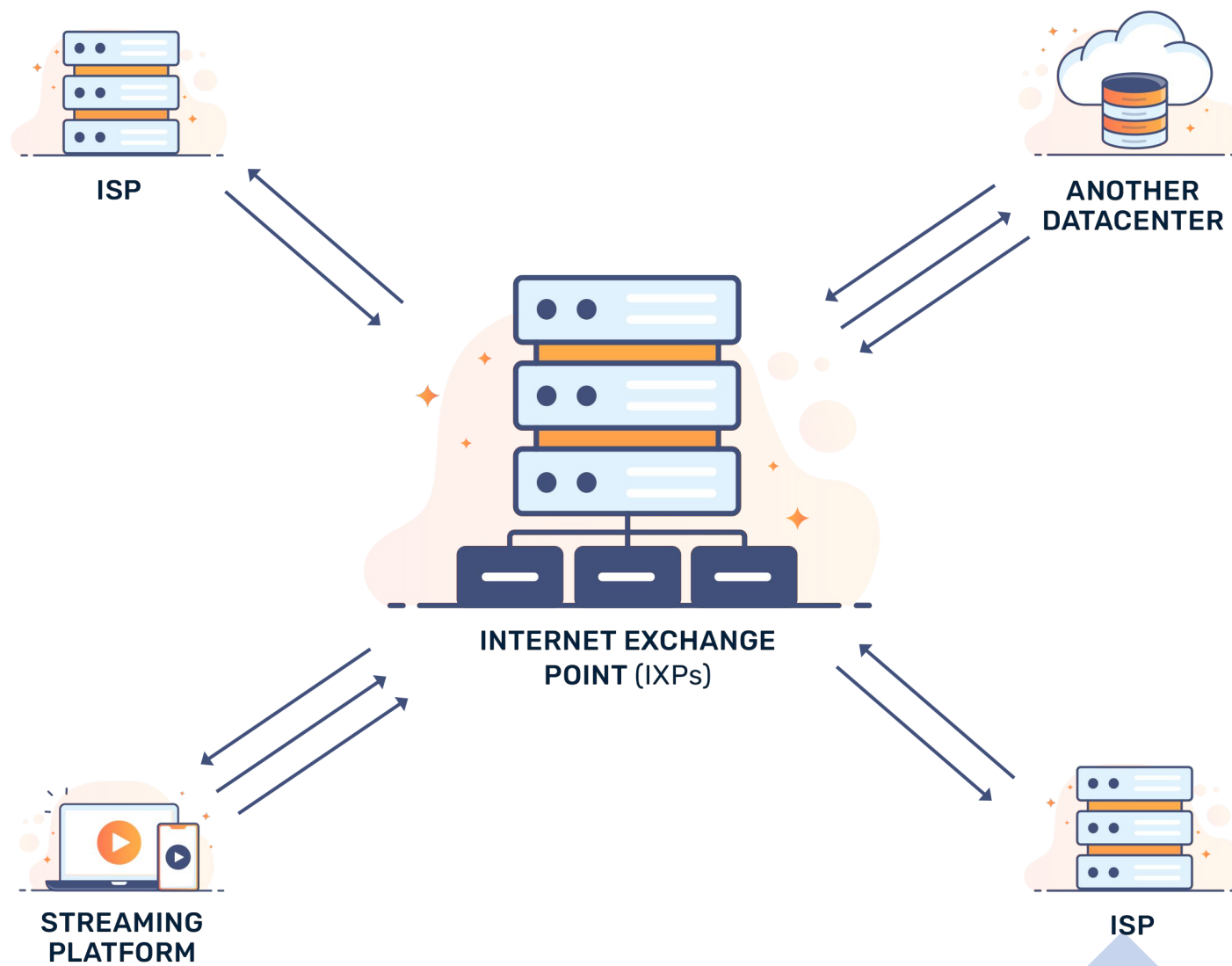
NPIX POPs & PEERS

TechMinds

NREN

Arrownet

InfoDeveloper

Sky Broadband

Cloud Himalaya

Broadlink

Vianet

DoIT

Nepal Police

PrimeNetwork

ClassicTech

Nepal Telecom

Pokhara Internet

IDMC

WorldFiber

DishMedia

DataHub POP (Kathmandu)

Ncell

PrabhuTV

PCH

CGNET

F1Soft

Fiber World

Chitrawan

Syntegrate

CDS clearing

Clound Eight

Accessworld POP (Patan)

First Link

HONS

Subisu

IBSS

NetTV

Dataspace

Worldlink

SajiloNet

FiberWorld

Kantipur

Mercantile

Websurfer

Umrao DC

Ultranet

2004 (1Mbps)

May 2025 (68Gbps)

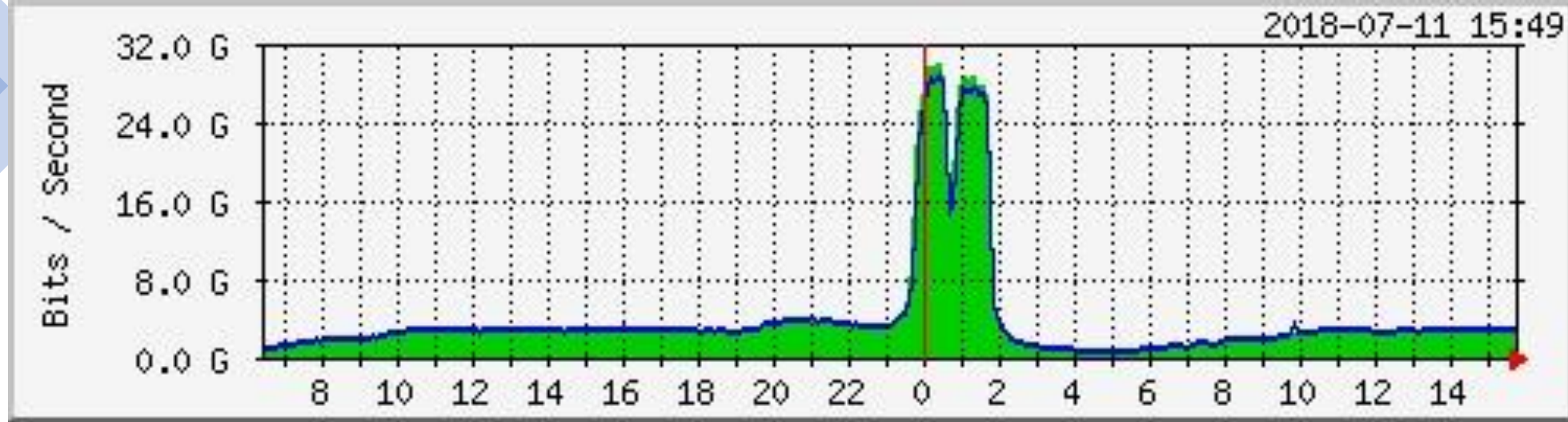MRTG Graph of one of the peering ISP depicting growth in usage of npIX traffic
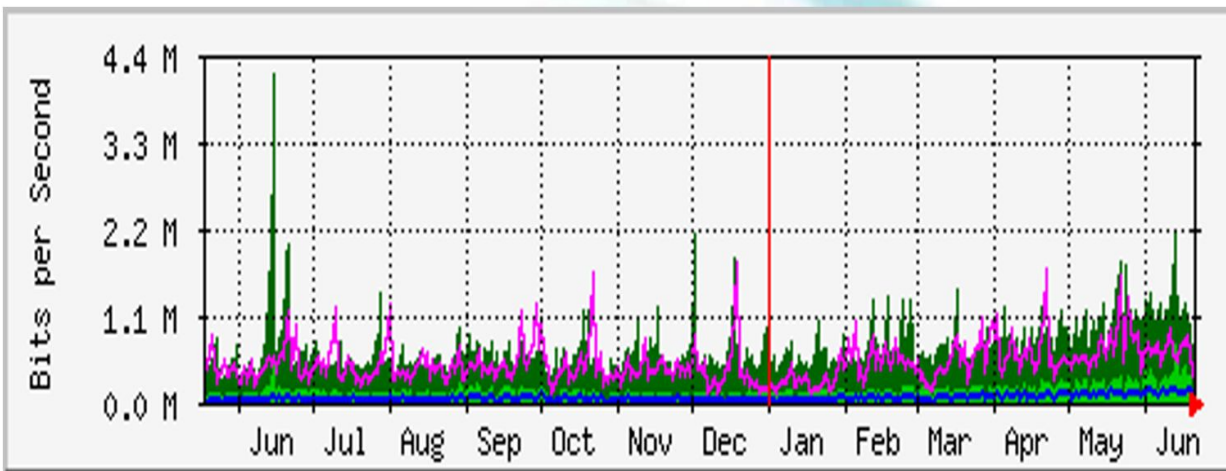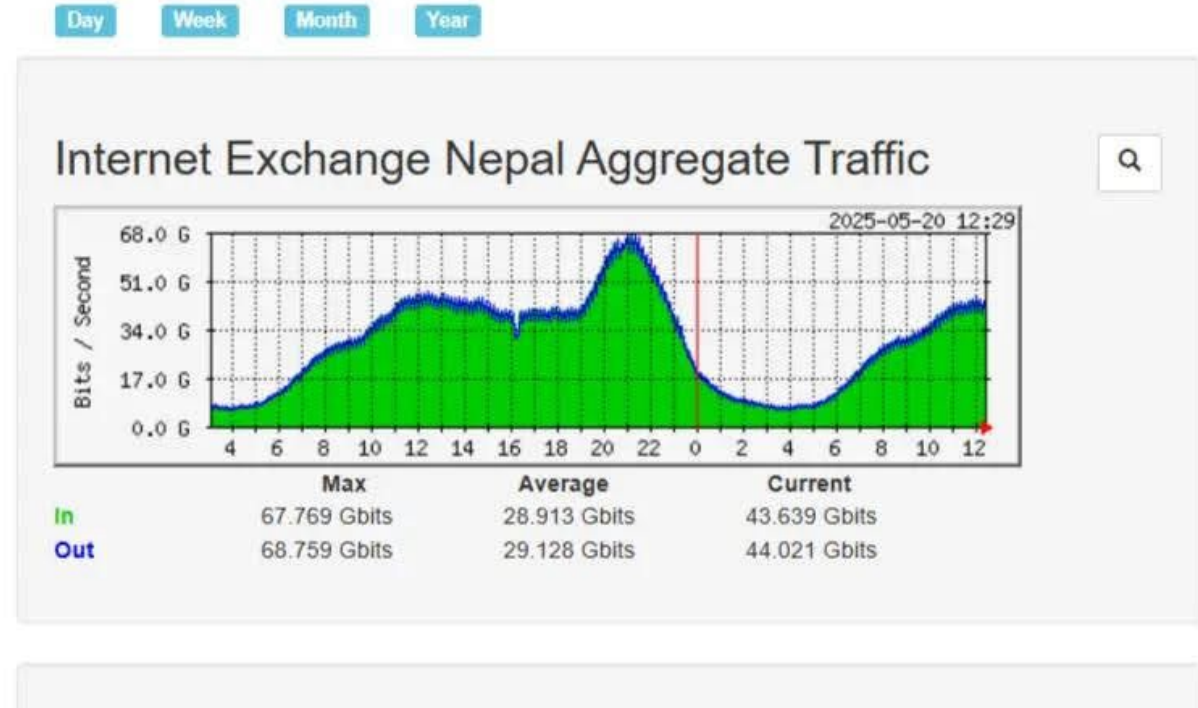
FIFA WORLDCUP 2018

NEWS

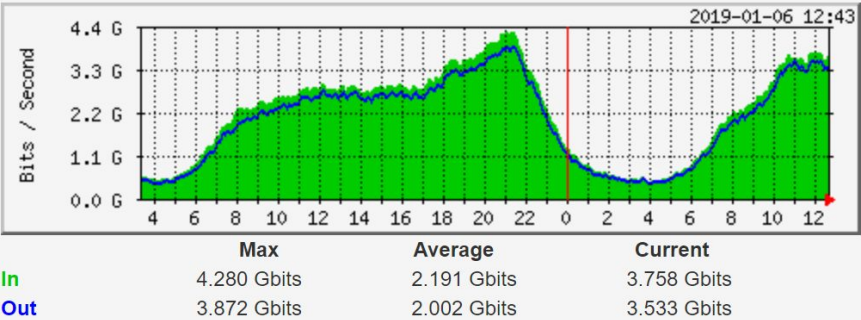## 32G TRAFFIC AT NPIX AND WORLDCUP 2018 EXPERIENCE

🕒 JULY 17, 2018   👤 RUPESH SHRESTHA   💬 LEAVE A COMMENT

Worldcup 2018 saw historic data exchange in npIX with traffic peaking up to 32G during some key matches. Most of the people in Nepal may not even realise the fact that their FIFA worldcup experience was good because of our small Internet exchange and how it contributed to their smooth viewing experience. There were efforts put in by some people to help npIX conduct timely upgrades to facilitate this unexpected surge in traffic. Kudos to technical volunteers of npIX who instead of watching worldcup matches were busy looking (happily) at traffic growth in npIX every day. Some key matches of Argentina and Brazil had good traffic growth to show Nepali fan following for soccer teams of these countries. This event has certainly triggered us to upgrade our resources further and be ready for future and wait for further historic records being broken.
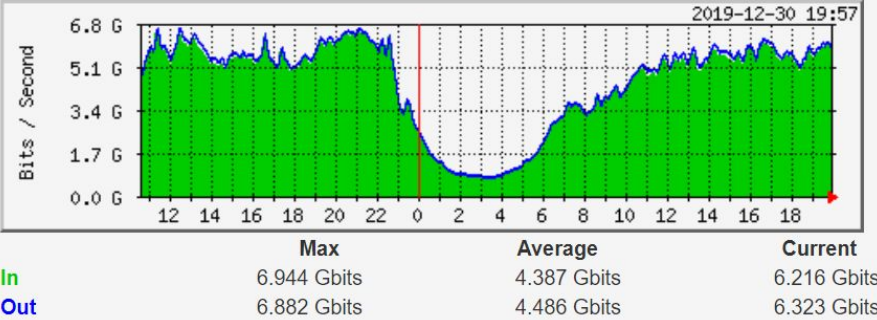
We are happy to serve Nepali Internet users and our members with continuous improvements and committed to expand our presence for greater user benefit. 32 Gbps ..... yeay!!! 🙂
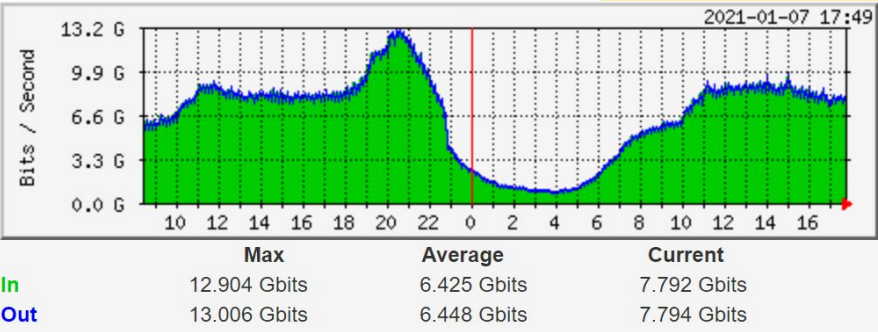
https://nms2.npix.net.np/statistics/ixp

2019 AGM (4.4G)

Day Graph

	Max	Average	Current
In	4.280 Gbits	2.191 Gbits	3.758 Gbits
Out	3.872 Gbits	2.002 Gbits	3.533 Gbits

2020 AGM (13.2G)

	Max	Average	Current
In	12.904 Gbits	6.425 Gbits	7.792 Gbits
Out	13.006 Gbits	6.448 Gbits	7.794 Gbits

2021 AGM (6.8G)

Day Graph

	Max	Average	Current
In	6.944 Gbits	4.387 Gbits	6.216 Gbits
Out	6.882 Gbits	4.486 Gbits	6.323 Gbits

2022 AGM (16.2G)

2023 AGM (34.2G)

July 2, 2024 NPIX graph

Day Week Month Year

Internet Exchange Nepal Aggregate Traffic

	Max	Average	Current
In	38.901 Gbits	16.244 Gbits	21.235 Gbits
Out	40.553 Gbits	16.884 Gbits	22.128 Gbits

Traffic Growth

NPIX Traffic -Year by Year Growth (Gbps)

Year	Value
2019	4.4
2020	6.8
2021	13.2
2022	16.2
2023	34.2
2024	40
2025	68

Infra Offering

- Layer 2 switching fabric.
- Quarantine, Management and Production Network.
- 1G /10G /40G and 100G ports available for members.
- 1G/10G Port free up to 2 POPs.
- 42 Members connected.
- NetNod i-root server.
- M-root server.
- PCH with D and E-root server, carries about 125 ccTLDs and Quad DNS.
- Route server and looking glass
- Support and Secretariat–Workalaya & NREN.

(South Asian Network Operators Group)

SANOG provides a regional forum to discuss operational issues and technologies of interest to network operators in the South Asian Region.

Total Events:

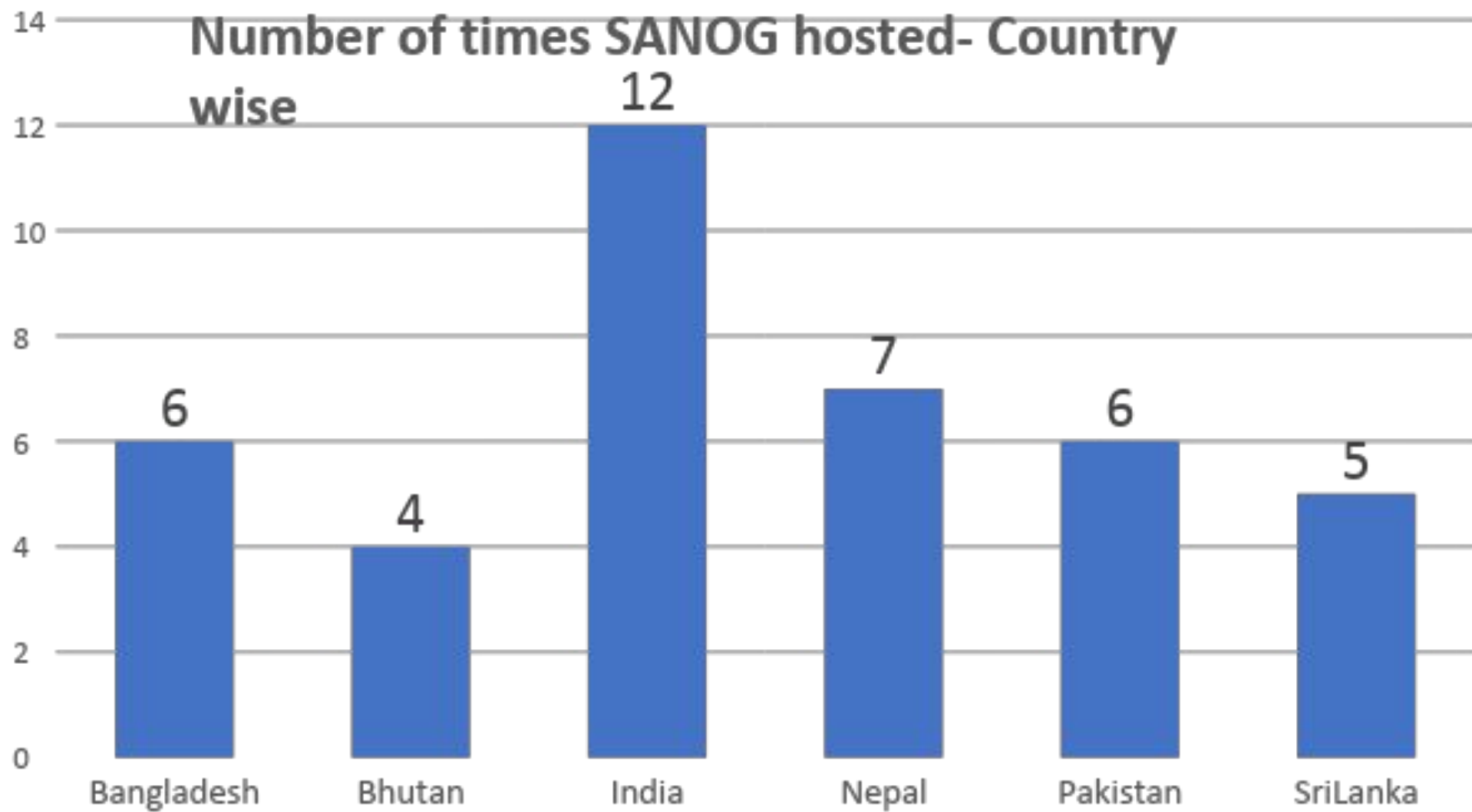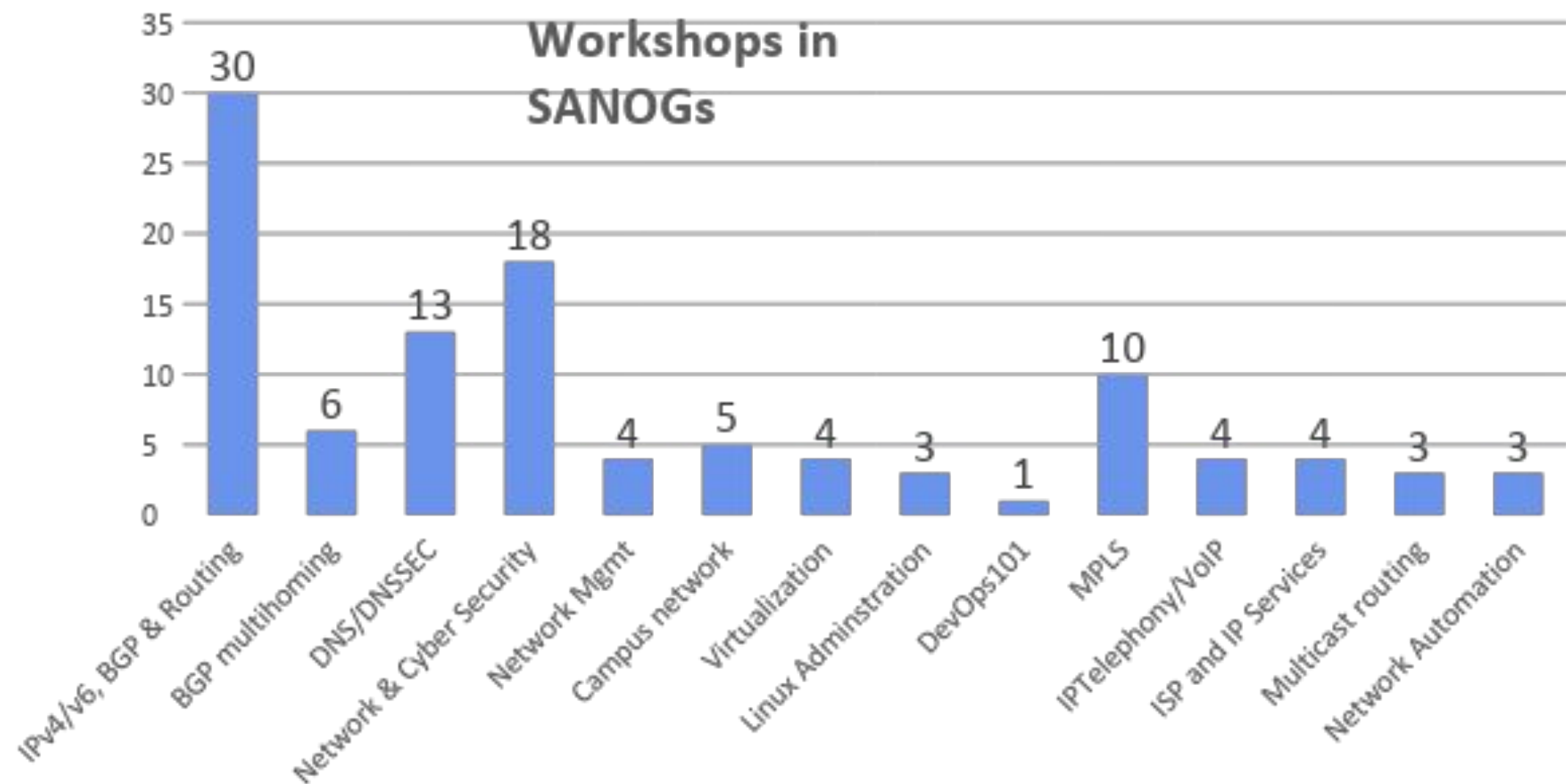**42**

WORKSHOPS

TUTORIALS

CONFERENCE

START

South Asian Network Operators' Group

Network Operations and Technology Related Education and Advocacy.

- SANOG 1: 23-28 January, 2003, Kathmandu, Nepal (hosted with CAN IT Conference)
- SANOG 2: 20-27 July, 2003 Colombo, Sri Lanka (hosted with Netsa)
- SANOG 3: 15-22 January, 2004, Bangalore, India
- SANOG 4: 23-30 July, 2004, Kathmandu, Nepal
- SANOG 5: 06-13 February, 2005, Dhaka, Bangladesh
- SANOG 6: 16-24 July, 2005, Thimphu, Bhutan
- SANOG 7: 16-24 Januray, 2006, Mumbai, India
- SANOG 8: 27 July – 4 August 2006,

Number of times SANOG hosted- Country wise

Workshops in SANOGs

Category	Count
IPv4/v6, BGP & Routing	30
BGP multihoming	6
DNS/DNSSEC	13
Network & Cyber Security	18
Network Mgmt	4
Campus network	5
Virtualization	4
Linux Adminstration	3
DevOps101	1
MPLS	10
IPTelephony/VoIP	4
ISP and IP Services	4
Multicast routing	3
Network Automation	3

- *Total 109 workshops till date .*

NPIX and NPNOG hosted SANOG-38 in Kathmandu, Nepal in July 2022.

SANOG

South Asian Network Operators' Group

SANOG Future Strategy Decisions:

1. **Event format:**
*From the year 2025, SANOG will have **one event per year**.*
   a. *2-3days Conference and Tutorial*
   b. *Supporting local NOG for Workshop, Streaming, fellowships etc.*

3. **South Asian Partners events:**
Parallel side events during the Conference.
   a. *Security CERT, National REN meet, NOG meet, IX meet, Datacenter meet, 5G, AI, IOT, Cloud, Network Policy etc*

3. **Governance:**
SANOG Core Com with South Asian Local NOG representatives, PC Chair, Fellowship Chair and SANOG Chair.
   b. *BTNOG, NPNOG, INNOG, BDNOG, LKNOG, PKNOG.*

4. **Branding and Fellowships:**
Increasing Branding and Outreach efforts. Continue Fellowships for more regional cooperation.

5. **Network Operations and Technology Related Education and Advocacy.**

SANOG-39

Conference Venue:

Pan Pacific Sonargaon Hotel, Karwan Bazar, Dhaka

Date: 09th May, 2023

Workshop Venue:

Intercontinental Dhaka, Shahbagh, Dhaka

Date: 10th – 13th May, 2023

SANOG-39/bdNOG-16

May 09-13, 2023

Dhaka, Bangladesh

Host: ISP Association of Bangladesh

SANOG-40

Conference Venue:

Hotel Hilton Colombo, Sri Lanka

Date: 16th October, 2023

Workshop Venue:

The Galle Face Hotel

Date: 17th – 20th October, 2023

**SANOG-40/LKNOG-7
16th to 20th October, 2023
Colombo, Sri Lanka.
Host: LKNOG.**

MUMBAI

SANOG 41:: Mumbai, India
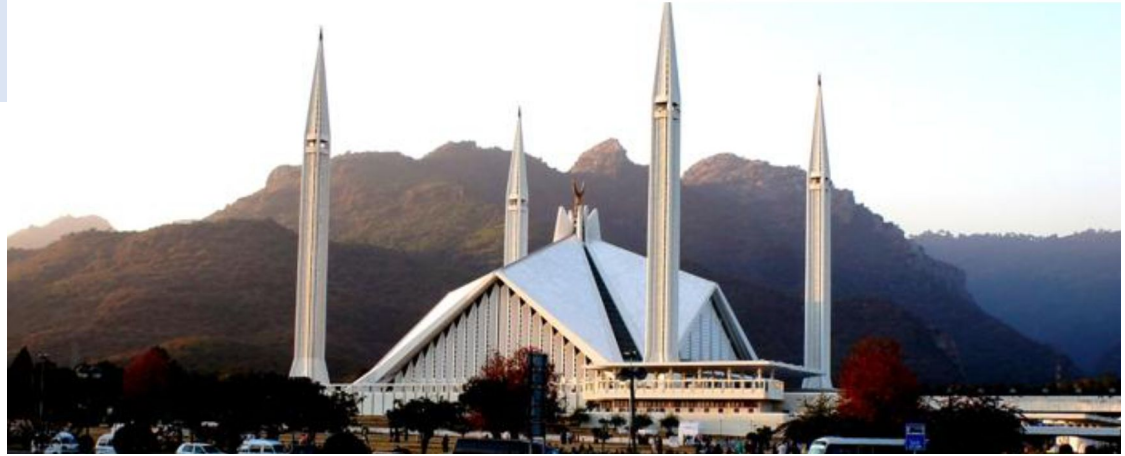
Conference: 29 th and 30 th April 2024 : Hotel Trident

Workshop: 25 th to 28 th April 2024 : Hotel Meluha Fern

SANOG 42:: Islamabad, Pakistan

21st October to 25 October 2024.

Venue: Islamabad Marriott Hotel

Next SANOG Event

SANOG 43:: BHUTAN.

Conference – 22nd and 23rd August 2025.

btNOG Workshop: 17th to 21st August 2025.

Thank you.

WWW.SANOG.ORG

rupesh@sanog.org